

WHAT IS CLAIMED IS:

1. An apparatus for measuring bore distortion of a cylinder block, comprising:

a compressor for applying pressure to a bore of the cylinder block;

5 a coolant controller for controlling the temperature of a coolant supply to the cylinder block for temperature control of the cylinder block;

a slider unit mounted in the cylinder block, the slider unit being movable along a longitudinal direction of the cylinder block;

10 a first driving unit for moving the slider unit along the longitudinal direction of the cylinder block;

a rotation unit rotatably mounted to an end of the slider unit;

a second driving unit for rotating the rotation unit;

at least one first sensor laterally mounted to the rotation unit, for detecting a clearance between the bore and the rotation unit; and

15 a second sensor for detecting the longitudinal position of the slider unit.

2. The apparatus of claim 1, wherein the compressor comprises a pneumatic pump.

3. The apparatus of claim 1, wherein threads are formed on an exterior circumference of the slider unit.

20 4. The apparatus of claim 1, wherein the slider unit is rotatably supported by a bracket mounted to the cylinder block.

5. The apparatus of claim 3, wherein the slider unit is rotatably supported

by a bracket mounted to the cylinder block.

6. The apparatus of claim 4, wherein:

a through-hole is formed at the bracket such that an end of the slider unit is inserted thereto; and

5 a nut holds the slider unit inserted through the through-hole.

7. The apparatus of claim 1, wherein the first driving unit comprises:

a first drive motor; and

a first driveshaft connected to a rotating shaft of the first drive motor, the first driveshaft having threads on its circumference.

10 8. The apparatus of claim 1, wherein:

an insertion hole is formed through a center of the rotation unit such that an end of the slider unit is inserted thereto;

a circular indentation is formed on a bottom side of the rotation unit; and

teeth are formed on an interior wall of the indentation.

15 9. The apparatus of claim 1, wherein the second driving unit comprises

a second drive motor; and

a second driveshaft connected to a rotating shaft of the second drive motor, the second driveshaft having teeth on its circumference.

20 10. The apparatus of claim 1, wherein the at least one first sensor is provided as a pair thereof on an exterior circumference of the rotation unit.

11. The apparatus of claim 1, wherein the at least one first sensor is a non-

contact gap sensor for detecting a clearance between the rotation unit and an interior circumference of the bore.

12. The apparatus of claim 10, wherein the at least one first sensor is a non-contact gap sensor for detecting a clearance between the rotation unit and an interior
5 circumference of the bore.

13. The apparatus of claim 1, wherein the second sensor is a linear gauge contacting the slider unit for detecting the longitudinal position of the slider unit.

14. The apparatus of claim 1, further comprising a pressure receiving plate disposed at a top of the slider unit, for receiving the pressure applied by the compressor.

10 15. The apparatus of claim 14, further comprising an O-ring disposed on an exterior circumference of the pressure receiving plate, for containing a pressure acting thereon.